

23. A system for raising a spacecraft launched into a transfer orbit about the Earth from the transfer orbit to a geosynchronous orbit, comprising:

a spacecraft comprising chemical and electric propulsion thrusters and a solar array;
a processor onboard the spacecraft for:

firing the chemical propulsion thrusters at apogees of intermediate orbits, starting from the transfer orbit initiated by the launch vehicle, to successively raise perigees of the orbit until the spacecraft perigee substantially clears the Van Allen radiation belts, and where the semi-major axis of the intermediate orbit is substantially less than the semi-major axis of [the] a final orbit, and where the inclination of the intermediate orbit is substantially greater than the inclination of the final orbit;

firing the electric propulsion thrusters to raise the orbit of the spacecraft from the orbit achieved by the chemical propulsion thrusters firing step to near geosynchronous orbit by steering the thrust vector both in-plane and out-of-plane while rotating the spacecraft body and steering the solar array to maintain the sun's illumination on the solar array; and

firing selected ones of the chemical and electric propulsion thrusters to achieve final geosynchronous orbit.

REMARKS

Regarding the status of the present application, Claims 1 and 23 have been amended, and Claims 1-29 are presently pending in this application. Reconsideration of this application is respectfully requested. It is respectfully submitted that this response does not require further searching by the Examiner. It is also respectfully submitted that this response places this application in condition for allowance, or in any event, in better condition for consideration on appeal.

Claims 1-29 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner pointed out certain antecedent basis issues. Claims 1 and 23 have been amended to address the Examiner's issues. It is respectfully submitted that Claims 1-29 are now clear and definite. In response to the Examiner's question, and as is discussed in the specification either on or both of the chemical and electric propulsion thrusters are fired to achieve final geosynchronous orbit. In view of the above, withdrawal of the Examiner's rejection is respectfully requested.

Claims 1-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 5,716,029 issued to Spitzer et al. It is respectfully submitted that the Examiner's rejection is in error.

Claims 1 and 23 call for the steps (or a processor) that achieves "firing the chemical propulsion thrusters at apogees of intermediate orbits, starting from the transfer orbit initiated by the launch vehicle, to successively raise perigees of the orbit until the spacecraft perigee